REMARKS/ARGUMENTS

Claims 1-14 are currently pending in this application. Claims 1-14 have been amended to make explicit the physical transformation of a received signal for the practical application of signal demodulation at a receiver via the claimed methods of estimating relevant parameters of a received signal including amplitude, noise power, and signal-to-noise ratio. Claims 10-13 have been further amended to make the recitation of the equations consistent with the specification. A number of other amendments have been made to the claims for stylistic reasons without the intent to in any way limit the scope of the claims. The abstract has been amended to adhere to length and format requirements. Applicants submit that no new matter has been introduced into the application by these amendments.

Objections to the Specification

The Examiner objected to the abstract of the disclosure because the abstract contained more than a single paragraph and exceeded 150 words. The abstract has been amended to overcome this objection. The withdrawal of the objection to the abstract is respectfully requested.

Claim Objections

The Examiner objected to claims 1-14 because of numerous informalities regarding format and undefined variables. The claims have been amended to correct the informalities pointed out by the Examiner. The withdrawal of the objection to the claims 1-14 is respectfully requested.

Claim Rejections - 35 USC §101

Claims 1-14 stand rejected under 35 USC § 101 as being directed to non-statutory subject matter. Although the Applicants respectfully disagree with the Examiner's assertion, claims 1-14 have been amended to overcome the Examiner's rejection with respect to recitation of an algorithm directed to a non-statutory subject matter.

The present invention is directed to methods for efficiently demodulating a received M-ary quadrature amplitude modulation (M-QAM) or q-ary amplitude shift keying (q-ASK) signal by estimating one or more parameters of the received signal. In particular, methods are provided for estimating the amplitude, noise power and signal-to-noise ratio (SNR) of a received M-QAM or q-ASK signal.

As explained in paragraph [0010], in order to demodulate M-QAM or q-ASK signals at a receiver, it is necessary to determine the values of one or more signal parameters at the receiver, including amplitude, noise power, and signal-to-noise

ratio. The claimed invention provides improved methods for estimating the above parameters at a receiver and therefore provides useful, tangible results in the form of parameter estimates as part of the demodulation of a received signal in a communication system. Amended claims 1-14 more explicitly claim methods directed to the demodulation of received signals via the estimation of received signal parameters.

Based on the arguments presented above, withdrawal of the 35 USC § 101 rejection of claims 1-14 is respectfully requested.

Conclusion

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing remarks, Applicants respectfully submit that the present application, including claims 1-14, is in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

Li et al.

By_____
Gerald B. Halt, Jr.
Registration No. 37,633

Volpe and Koenig, P.C.
United Plaza, Suite 1600
30 South 17th Street
Philadelphia, PA 19103
Telephone: (215) 568-6400
Facsimile: (215) 568-6499

GBH/CRT/dcb